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研究生姓名
Name of Student
謝建成
Tse Kin Shing

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論文考試委員會
Thesis Examination Committee

論文導師
Thesis Supervisor
Mr. CHUNG Choi Man 鍾財文 先生

校內委員
Internal Examiner
Dr. SIU Ping Kee 蕭炳基 教授

校內委員
Internal Examiner
Ms. SIU Lai Ping 蕭麗萍 女士

校外委員
External Examiner
Dr. WU Jing Jyi 吳靜吉 博士

學部主任
Division Head
Dr. CHUNG Yue Ping 鍾宇平 博士

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THE RELATIONSHIP BETWEEN PERSONALITY-ENVIRONMENT CONGRUENCY AND TEACHING PERFORMANCE IN STUDENT TEACHERS

師範學生之性格—環境協調性與教學表現之相關研究

by

TSE Kin-shing

under the supervision of

Mr. CHUNG Choi-man
Dr. SIU Ping-kee
Mrs. WONG SIU Lai-ping

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ABSTRACT

This research employed Holland's vocational theory to study the relationship between teaching performance with respect to the two different levels of personality-environment congruency of student teachers. Subjects were the first year students of the two-year full-time course in Sir Robert Black College of Education.

This study employed a survey and a field study through classroom observation. Self-Directed Search was used to collect data and classify student teachers into different types of personality. Through the data, two levels of congruency were defined, namely, congruency and incongruency.

The data of teaching performance was collected by two lecturers through classroom observation. The inter-judge reliability was calculated through the data of the 30 pairs of the common observed subjects. The correlation coefficients of the four sub-scales were substantially high ($P<.001$). Linear regression was employed to scale the scores of teaching performance.

The result of One-way Analysis of Variance revealed that there was significant difference ($F(1,56)=33.09$, $MS_E=1324.01$, $P<.001$) in the teaching performance between the congruency and incongruency group.

On the other hand, the teaching attitude questionnaire (Cronbach Alpha = .7759) was used to investigate student teachers' affective feeling towards teaching and the degree of confidence in taking up teaching as their career.

The result of One-way Analysis of Variance revealed that there was no significant difference in the mean scores of teaching attitude between the congruency and the incongruency group.

According to the study, the 4 independent variables; namely, sex, congruency, satisfaction and confidence could be used to predict a student teacher's teaching performance. The variance could be explained was found to be 41.1%.

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CHAPTER 1

INTRODUCTION

Background of the Study

In Hong Kong, teacher education programmes are diversified into two main routes. One is for the non-graduate teachers. The other is for the graduate teachers. The two universities, namely, University of Hong Kong and the Chinese University of Hong Kong have been taking up the responsibility for training university graduates. They will be teachers mainly serving in secondary schools. After they have adequate teaching experience, they can change their posts and serve in other related fields as inspectorate or administrative staff in the Education Department of Hong Kong, or as administrators in other educational institutions or organizations. The Baptist College is going to join the teacher education force for training graduate teachers. The non-graduate teachers, mainly serving in primary schools or teaching academic subjects up to Form 3 and cultural subjects (Physical Education, Art & Design, Music, Design & Technology and

Domestic Science) up to Form 5 level in secondary schools, are trained in the four colleges of education run by the Education Department of Hong Kong. They are Northcote College of Education, Grantham College of Education, Sir Robert Black College of Education and Hong Kong Technical Teachers' College. At present, over 91% of the serving teachers in the primary schools of Hong Kong are trained through the above four colleges (Education Commission Report No.5, 1992). The quality of education in Hong Kong has long been criticized by the public and most of the adverse comments are directed at the non-graduate teacher training institutions.

The Hong Kong government has changed its education policy. It has the intention of expanding the places in the tertiary level after the announcement of the Education Commission Report No.4. This changing policy has started to create problems for the colleges of education in recruiting new student teachers to join the non-graduate teacher education programme. The education policy of the Education Department of Hong Kong always puts the priority of quantity before quality. In 1992, the total enrollment of the first year students in the Sir Robert Black College of Education is 320, 20% below the pre-set

target. This is the first time that colleges of education failed to meet the target set by the Education Department. In the previous few years, although the enrollment target was successfully met, in terms of academic ability, most of the student teachers just barely met the minimum entry requirement. It has been evident that the colleges of education cannot compete favorably with other tertiary institutes. It is a fact that cannot be denied and neglected. Thus a feasible solution to overcome the difficulty of upgrading the academic quality of the student teachers at the non-graduate level is pressing.

In the Education Commission Report No.5, the commission members attributed the loss in compatibility of the colleges of education to the rapid expansion of tertiary education and the rigid control from the government. The government is responsible for hampering the development of the colleges of education in the academic aspect and the improvement of facilities. So the commission members suggested upgrading the four colleges of education and Institute of Language in Education into an autonomous Institute of Education, offering graduate posts in primary schools and improving the teacher education programme (Education Commission Report No.5, 1992), in order to

alleviate the difficulty of recruiting new student teachers for the primary schools. Their suggestions are sound but it requires 9 to 15 years for the upgrading process to be accomplished. It implies that in the forthcoming 9 years, before the accomplishment of the above improvement measures, the problems of low enrollment rate and the low academic standard of new student teachers will still exist in the colleges of education. The Education Department will have to accept more and more untrained teachers to join the teaching profession in the coming few years. These untrained teachers can become qualified teachers upon completion of the in-service teacher training programme after three years' continuous service. Under such circumstances, the quality of teacher education in the future cannot be improved. Instead, it will be deteriorating. The target of up-grading the whole teaching profession to all-graduate would not be achieved. Now the policy makers in the colleges of education have to make a choice between quality and quantity. If we emphasize the importance of 'quality', the quantity of the graduates from the colleges of education cannot meet the demand of the teaching profession. If we lower the entrance requirement of the colleges of education, of course, the problem of low enrollment rate

would be solved, but we cannot produce competent teachers for the teaching profession.

Holland developed the theory of vocational choice in 1973. In Holland's theory, he classified people's personality and environment into six types. They were the realistic, investigative, artistic, social, enterprising and conventional. People with different personality may process different talent and may prefer different kinds of job (Holland, 1973). For example, the people of social type personality may be sociable, responsible and have better verbal and interpersonal skills. They may prefer to be a clinical psychologist, speech therapist or a school teacher as their career. He claimed that if a person's personality and environment were in congruence, that person would perform better than those who were not. If a student teacher's personality was classified as social type, and the school environment was also classified as social type, would that student teacher perform better in the teaching practice than those student teachers who experience the personality-environment incongruence? Will there be a difference in seeing teaching as a career?

The Problem

This research employs Holland's theory to study the relationship between teaching performance with respect to different levels of personality-environment congruency of student teachers. A set of teaching performance criteria covering classroom management, planning and organization of teaching, teaching methods and skills, teacher-student relationship will be employed to assess the teaching performance of student teachers.

Student teachers with different levels of personality-environment congruency will have different teaching performance during teaching practice and different attitude towards teaching after teaching practice.

Purpose of the Study

The purpose of this study is two fold. First of all, it is an attempt to validate Holland's theory that people with personality-environment congruency will perform better and have more positive attitude towards the job. Hence it hopes that congruent student teachers are ex-

pected to perform better than the incongruent student teachers. Secondly, it is hoped that the classification of personality types may serve as a means to select student teachers who are suitable for the teaching career. Thus the study may provide a reliable reference for selecting capable student teachers.

Significance of the Study

There is substantial body of published researches concerning student teachers in different countries. We have to bear in mind that the student teachers' academic background, training background, length of training time and training programme in Hong Kong have great variance with the other countries.

In Hong Kong, Professor Cooke and Pang et al (1990) conducted a comprehensive research on the beginning teachers. But the research subjects were the university graduates who were newly recruited as teachers in secondary schools. Some of them had completed the P.G.C.E programme, some were still undergoing the training pro-

gramme, and some were not yet trained at that moment. The result indicated that the trained teacher met fewer problems than those untrained teachers.

So far, only Cheung and Lew (1981) published a report about how students, student teachers and serving teachers perceived the important criteria of teacher quality. A group of student teachers in Sir Robert Black College of Education were selected as part of the research subjects. The first five items ranked by all subjects were:

1. ability to stimulate intellectual curiosity.
2. developing thought process.
3. good relationship with students.
4. knowledge and interest in subject material.
5. fluency of speech.

This study provided us some hints to prepare the student teachers as well as ourselves to be a good teacher.

Chan (1983) investigated the attitudes of student teachers in Northcote College of Education towards the curriculum in the college. Regarding the depth of the subject matter taught in the college, the second year students of the 2-year and 3-year courses had a signifi-

cant difference ($p < .001$). He attributed this difference to the different academic background of the two different year groups of student teachers. Most of the 2-year students at that time were matriculated and the 3-year students were Form 5 graduates.

The above researches conducted in Hong Kong are similar to the present study in some respects but the present study would focus on the teaching performance that student teachers exhibited during their teaching practice in primary schools. Moreover, this study would be the first research of its kind concerning the relationship of teaching performance and personality-environment congruency of student teachers in the Colleges of Education in Hong Kong.

The result of the research can shed some light as to whether Holland's theory of personality-environment congruency can be used as a predictor to select the appropriate candidates to be trained as teachers.

CHAPTER 2

LITERATURE REVIEW

Holland's Theory of Vocational Choice

Holland published a book titled "Making Vocational Choices: A Theory of Careers" in 1973, and the career theory has long been touted as serious explanations of human behaviour in making vocational choices (Helson & Mitchell, 1978; Spokane, 1985). This theory is based on the following four assumptions which constitute the heart of the theory.

The Four Assumptions

1. "In our culture, most persons can be categorized as one of six types: realistic, investigative, artistic, social, enterprising, or conventional." (p.2)

2. "There are six kinds of environments: realistic, investigative, artistic, social, enterprising, or conventional." (p.3)

3. "People search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles." (p.4)

4. " A person's behaviour is determined by an interaction between his personality and characteristics of his environment." (p.4)

Based on the above four assumptions, Holland developed the theory of vocational choice to explain the personality, environmental contingencies and person-environment interaction congruency (Holland, 1973) which would bring better job performance. That is why Helson & Mitchell (1978) named it as one of the interactive models.

The Six Environment and Personality Types

Holland (1973) extended and clarified the four assumptions by classifying both persons and environments into six types. Using this classification, personality and environment types can be brought together for the maximum 'fit' condition which would be reflected in the job performance. These six environment-personality types and their corresponding activities are listed below (Campbell & Holland, 1972; Holland, 1973):

1. Realistic (R)

The personality of this type is masculine, physically strong, unsociable and aggressive ; has good motor coordination and skills; lacks verbal and interpersonal skills; prefers concrete to abstract problems.

The activities preferred by a realistic person are the explicit, ordered, or systematic manipulation of objects, tools, machines, animals, and to an aversion to educational or therapeutic activities.

2. Investigative (I)

The personality of this type is task-oriented, introspective and asocial; prefers to think through rather than act out problems; has greater curiosity about the need to understand the physical world; enjoys ambiguous work tasks; prefers to work independently; has unconventional values and attitudes.

The activities preferred by an investigative person are the observational, systematic, and creative investigation of physical, biological, and cultural phenomena in order to understand and control such phenomena; and to an aversion to persuasive, social, and repetitive activities.

3. Artistic (A)

The personality of this type is asocial, avoids problems that are highly structured or require gross physical skills; resembles investigative type being introspective and asocial but differs in having a greater need for individual expression, less ego strength; is more feminine and suffers more frequently from emotional disturbances.

The activities preferred by the artistic person are the manipulation of physical, verbal, or human materials to create art forms or products, and to an version to explicit,

systematic, and ordered activities.

4. Social (S)

The personality of this type is sociable, responsible, feminine, humanistic, religious, and needs attention; has verbal and interpersonal skills; avoids intellectual problem solving, physical exertion, and highly ordered activities; prefers to solve problems through feelings and interpersonal manipulation of others.

The activities preferred by a social person are the manipulation of others to inform, train, develop, cure, or enlighten; and an aversion to explicit, ordered, systematic activities involving materials, tools, or machines.

5. Enterprising (E)

The personality of the person in this type has verbal skills for selling, dominating, and leading; sees himself as strong, masculine leader; avoids well-defined language or work situations requiring long periods of intellectual effort; differs from conventional type on that he prefers ambiguous social tasks and has an even greater concern for power, status, and leadership; is orally aggressive.

The activities preferred by an enterprising person are the manipulation of others to attain organizational goals, or economic gain; and an aversion to observational, symbolic, and systematic activities.

6. Conventional (C)

The personality of the person in this type is a conformist and prefers subordinate roles; is effective at well-structured tasks, but avoids ambiguous situations and problems involving interpersonal relationships and physical

skills; identifies with power; values material possessions and status.

The activities preferred by a conventional person are the explicit, ordered, systematic manipulation of data, such as keeping records, filing materials, reproducing materials, organizing written and numerical data according to a prescribed plan, operating economic goals; and to an aversion to ambiguous, free, exploratory, or unsystematized activities.

The above descriptions have an implication concerning the personality and environment congruency. In certain careers, personality-environment congruency results in better job performance. Usually, there are some common characteristics within each of these careers.

The Hexagon Model

The interrelationship of personality types and environment types can be expressed by Holland's Hexagon Model (Holland, 1973).

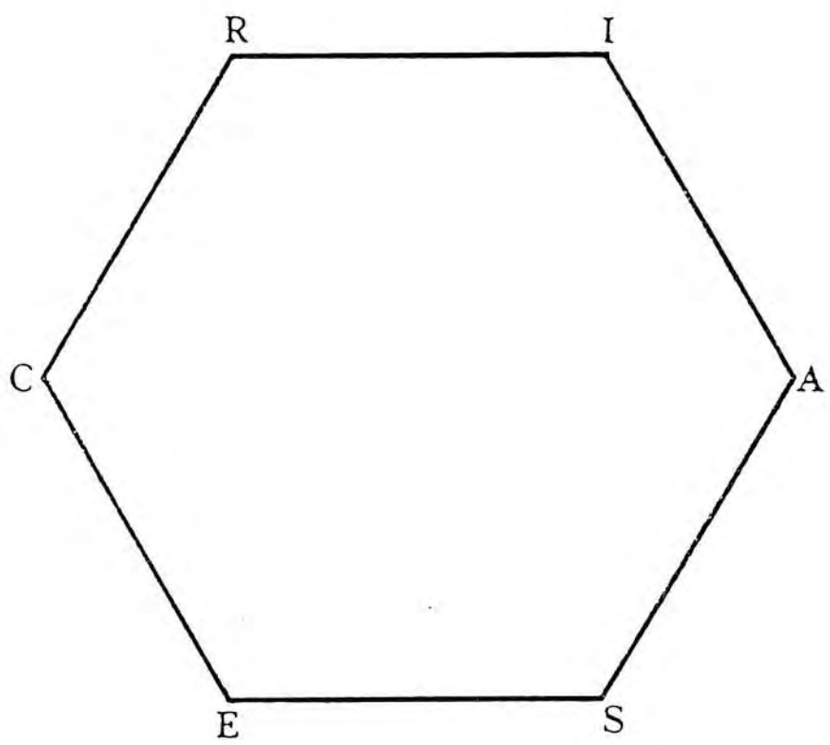

Figure 1: Holland's Hexagonal Model.

Holland employed the hexagonal model to depict the degree of relationship between personality types. The shorter the distance between personality types, the greater their similarity. For example, the Social and Enterprising personality types were highly related (.54), whereas the Social and Realistic personality types were relatively unrelated (.21). However, the correlation coefficients of the hexagonal model was determined by a particular sample. If the model was applied to different samples, modifications in hexagonal model correlations could occur. Vansickle and Prediger (1991) illustrated the way of mapping occupations on Holland's hexagon. They found that the hexagon mapping procedure could summarize the information from the converted 6-score profiles efficiently.

Raphael & Gorman (1986) found the college women had the similarity characteristic as Holland's model. Castaneda (1984) analyzed the similarity of Holland's model between parents and offsprings across three ethnic groups, Blacks, Whites, and Mexican-Americans. No significant differences were found between three groups. Turner and Horn (1975) investigated 402 Mexican-American adults. Results indicated that males strongly supported Holland's

model but females did not. Alston, Wakefield Jr., Doughtie and Bobele (1976) found no difference between male and female college students but supported Holland's model.

Chung (1981) conducted a survey for 850 Form 5 students in Hong Kong. He found the order of the six personality types was the same as Holland's model. He also compared the data he collected with Holland's data (1973, p.23) and found that the two sets of inter-correlations about the six types were high (r-spearman=.8805, p<.001).

The hexagonal model can be used to elaborate the interaction of personality and environment, personality and interest, and personality and job performance or satisfaction. The above interaction can be further elaborated through the following three approaches and Meier (1991) claimed these approaches still continuously to guide many researchers.

Consistency. A person with high consistency personality pattern should have greater integration of interests, competencies, values, traits and perceptions than the low consistency person. This person would be more

predictable and more resistant to influence (Holland, 1973). Much of the research has focused on the predictability of the consistent pattern in both educational and vocational realms. With reference to the hexagonal model, three levels of consistency can be classified by the proximity of the hexagon. For example, Social-Enterprising codes would be classified as high consistency, Social-Investigative codes as medium, and Social-Realistic codes as low consistency.

O'Neil Magoon (1977) used Self-Directed Search to test the predictability of university students in Holland's Investigative type. There were significant different prediction rates found for high and low consistency levels graduates in terms of their ultimate major, immediate future vocational plan and occupational plan for 5 years respectively (F=12.99, 13.10, 17.68). O'Neil (1977) found no significant differences on both SAT and GPA scores for the sign of low and high consistency (F=.39) in 127 university graduate students. In O'Neil, Magoon and Tracy's (1978) research, the high consistent pattern of the Investigative males were found to support Holland's prediction.

Wiley and Magoon (1982) studied the Social type college students and found that the lower-consistency students had higher attrition rate than those of higher-consistency students. The higher-consistency students achieved at higher levels of cumulative GPA than those of lower-consistency students.

Congruency. Congruency exists when a person is in a compatible environment. Congruency can be conducive to the following personal performance: (1) more stable vocational choice, (2) higher vocational achievement, (3) higher academic achievement, (4) better maintenance of personal stability, and (5) greater satisfaction (Holland, 1966). Holland (1973) proposed that "vocational satisfaction, stability and achievement depend on the congruence between one's personality and the environment in which one works." Spokane (1985) reviewed the research papers concerning the congruence in Holland's theory and found that personality and environment congruence can be used to explain individuals' vocational behaviour:

1. Congruent individuals will be reinforced, satisfied, and are less likely to change environments.

2. Incongruent individuals will be influenced by the dominant environment to change in the direction of congruence.

3. When placed in an incongruent environment, persons with consistent and differentiated personality patterns will be more likely to operate to make changes in the environment.

According to Holland's classification method, Kwak and Pulvino (1982) also classified the person-environment congruency into three levels and claimed that this would determine the degree of vocational stability.

1. High level of congruency: a person's one-letter environmental code is identical to the first letter of the person's summary code.

2. Moderate level of congruency: a person's one-letter environmental code is hexagonally adjacent to the first letter of the person's summary code.

3. Low level of congruency: a person's one-letter environmental code is neither hexagonally adjacent nor iden-

tical to the first letter of the person's summary code.

Meir (1989) elaborated the congruence theory and suggested it could be applied in the following four layers:

1. Congruence of vocational interests and occupational choice.

This is the basic hypothesis of congruence theory. If a person is in a congruence state, it means that his/her occupational choice matches his/her vocational interest, then he/she will have higher level of satisfaction than a person who is in an incongruence state. Many researches have been designed to test this hypothesis.

2. Level of congruence between interests and occupational choice.

This is the more sophisticated hypothesis in congruence theory. It proposed that there is a positive correlation between the level of interest with respect to the chosen occupation and the level of satisfaction with its choice.

3. Environmental congruence.

This hypothesis is based on Holland's (1973) statement: "Vocational satisfaction, stability and achievement

depend on the congruency between one's personality and the environment in which one works."

4. Within-occupation congruence.

A by-product of the rapid technology advancement is the diversity of specialties within occupations. Nowadays, it is hard to find an occupation which is homogeneous. So it is true to say that "occupational congruence" can be replaced by "within occupation specialty congruence".

Differentiation. Differentiation means the magnitude of the difference between highest and lowest scores on the six variables used to determine a person's or an environment's degree of resemblance to a personality type or an environmental model (Holland, 1973). Stability of vocational choices has been regarded highly related to well-differentiated scores. A differentiation score is obtained through the numerical difference between a per son's lowest and high scores on scales of Holland's six types (Wiggin, Lederer, Salkowe and Rys, 1983; Swanson and Hansen, 1986).

Swanson and Hansen (1986) studied the 651 liberal arts students in the first and final years. They divided the

81 undifferentiated subjects into the High-Score Undifferentiated (HSU) group and Low-Score Undifferentiated (LSU) group. They found the HSU students were more internally consistent in the interest profile than LSU students. Compared with the LSU students, the HSU students had a higher mean in the cumulative grade point average ($F(1,80)=15.20$, $p<.002$) and academic comfort score ($F(1,80)=90.15$, $p<.001$) and persisted to finish the degree (x^2 $(1)=7.15$, $p< .01$). So Swanson and Hanson stated that even research subjects were classified into differentiated and undifferentiated, they cannot be regarded as two homogeneous groups.

Instruments for Measuring Personality

Vocational Preference Inventory (VPI)

The Vocational Preference Inventory was designed by Holland. It is a personality inventory and is composed entirely of occupational titles. The data were grouped into 11 categories: Realistic, Intellectual, Social, Conventional, Enterprising, Artistic, Self-Control,

Masculinity, Status, Infrequency, and Acquiescence (Holland, 1965). The revised edition of the Vocation Preference Inventory (VPI) grouped the 11 categories into six types and covered 160 occupation titles: Realistic, Intellectual, Social, Conventional, Enterprising, and Artistic (Holland, 1970).

Strong Vocational Interest Bank (SVIB)

Strong and Campbell (1966) found the SVIB could provide information about a client's maladjustment or immaturity. If the pattern showed flat, there would be no high or low scores. Under such situation the SVIB could not provide information for occupational choice.

Self Directed Search (SDS)

The SDS was designed by Holland to measure an individual's resemblance to the six theoretical types in the hexagonal model in terms of competencies and interests which were in common to a certain career. The SDS consisted of five sections. They were activities, competen-

cies, occupations and two sets of self-estimation in abilities and skills. Each section had questions for the six theoretical types. The sum of the five sections of each type was recorded at the end of the inventory in descending order.

The function of SDS was clearly stated by Holland (1973):

> " A person's Self Directed Search (SDS) ..... can be used to estimate the level of his vocational development or maturity."

Walsh and Hanle (1975) appraised the SDS as an instrument of combining assessment, scoring, profiling and diagnostic functions. McGowan (1982) found the SDS was a valuable tool to predict occupational choices of individuals. In his research, the SDS summary code successfully predicted 73.7% of the 126 subjects' career choice four years after graduation. O'Neil, Magoon, and Tracy (1978) found the SDS had "moderately high efficiency" in predicting college major and actual job entry seven years later.

Spokane (1985) praised the SDS as an inventory having more than adequate reliability and validity. In the

cross-cultural study of the validity of SDS, Khan, Alvi, Shaukat, Hussain and Baig (1990) conducted a research in Pakistan for the college and university students. The result indicated that Holland's model could be an useful instrument to be applied to a non-western culture. Meir and Hasson (1982) who employed the SDS in Israel and McGowan (1982) in USA found that the SDS was a useful instrument and Holland's model could be applied in the countries having different culture. Feldman and Meir (1976) supported both Holland's model and the SDS inventory.

SDS is a self-administrated, self-scored and self-interpreted instrument, so respondents can feel free to express their feeling and perception through it. But a critical question about the instrument like SDS would occur if the respondent is unable to complete or score it accurately and thus attenuating the reliability and validity of the research. Gelso, Collins, Williams and Sedlacek (1973) found six types of common errors made by the 221 subjects in their research. These six common errors and errors' percentage are listed as follows.

Table 1: Common Errors of SDS Made by Respondents (Gelso et al, 1973)

Types of error	Percentage
Addition	19
Rating	92
Summary Table	89
Errors affecting final code	55
Appropriate letters omitted in code	47
High-point code incorrect	18

Although Gelso et al did not suggest any affirmed solution to overcome these problems, they admitted they left the test room after distributing the instrument to the respondents during the data collection process. Gelso introduced the suggestion made by Holland (1971), O'Connell and Sedlacek (1971), and Zener and Schneulle (1972) that monitoring can reduce the error made by respondents.

The Relationship between Teaching Performance and Congruency

Holland's theory has long been regarded as a valuable theory to predict the occupational choice of individuals. A current research approach is employing Holland's theory

to predict job satisfaction or performance of individuals (Kwak and Pulvino, 1982).

Gati (1989) discussed Holland's concept of congruence and claimed that job satisfaction and performance would be strongly related to the degree of congruence. People who could be characterized as certain types would be more satisfied than those who were characterized as different types. In studying the congruence, consistency and differentiation have been used as intervening variables. Stability or performance in an occupation might be used as a dependent variable (Gati, 1989; Frantz & Walsh, 1972; Mount & Muchinsky, 1978; Peiser & Meir, 1978). Gati (1989) also pointed out that except personality, some types of relevant skills and abilities also played a pronounced role in enhancing job satisfaction.

Chapman and Lowther (1982) adopted Holland's model to explain the relation of teachers' satisfaction and teaching skills. They found that teachers' skills and abilities were significantly related to teaching satisfaction. They also developed a model to interpret how these influences (personal demographics, skill and abilities, criteria for judging professional success, and professional

achievement) affected teacher satisfaction. The most important factor that related to career satisfaction was the part on 'skill and abilities' ($F(7,532)=2.40$, $p>.005$). They defined the skills and abilities as follows:

Writing effectively
Speaking effectively
Communicating with others
Persuading others to accept your ideas
Supervising and leading
Organizing time effectively
Planning and organizing job-related activities

They found that teachers who rated themselves higher in the skills and abilities, values and professional accomplishments exhibited more satisfaction in the teaching career.

Wiggins (1976) investigated the teachers of educable mentally retarded in USA. He found the job satisfaction among the 110 teachers was not significantly related to certification, degree, or teaching level but significantly related to their personality type. Wiggins' study indicated that the congruence teachers in Social, Realistic and Artistic types were significantly related to the job satisfaction ($P< .001$). Conventional type teachers were at .01 level. Even for the weakest type, the Inves-

tigative, result indicated that they were significant at .05 level. This result indicated that the congruency concept can be applied in the teaching profession.

Wiggins, Lederer, Salkowe and Rys (1983) jointly conducted a research about the job satisfaction of teachers in the five different subjects. They used Holland's Occupations Finder to select teachers to represent one of the six occupational spectrum. The agriculture teachers represented the Realistic area, mathematics teachers represented the Investigative area, English teachers represented the Artistic area, history teachers represented the Social area, business teachers represented the Conventional area and no teachers were found to represent the Enterprising area. Results indicated that job satisfaction did not correlate with respondents' age, years of teaching but correlated positively and significantly with scores on the personality types especially the Social and the Investigative type.

Literature Related to Teaching Practice

Teaching Practice

The pivotal role of teaching practice in the initial teacher training programme is generally accepted. Briscoe's research in Clemson University (1989) indicated that the student teaching experience was a positive one and worthwhile endeavor. Securro and Owen (1982) found student teachers perceived their field experiences as beneficial and valuable. Burstein (1988) claimed teaching practice provided a time for student teachers to refine and synthesize teaching skills from training programme. Teaching practice can provide student teachers a chance to apply the theories they have learnt and to bridge the gap between the content of professional courses they obtained in the college and the activities of student teaching they carried out in the school. Evans (1986) also argued that student teaching experiences provided the opportunity of instantiation of concepts which means connecting a concept to a particular classroom event and using a classroom event to understand more fully the meaning of a theory or concept. Maxie (1989) highly valued the student teaching experiences gained

during teaching practice because it provided a real world of teaching for student teachers. Berliner (1985) concluded in his study that prospective teachers consistently perceived student teaching to be their most practical and useful orientation to the reality of teaching.

The Department of Education and Science (DES) in the U.K. conducted several surveys and published some reports undertaken by Her Majesty's Inspectors throughout 1980s. The DES Report (1989) mentioned about the expected standard for student teachers during teaching practice as, "a satisfactory standard of practical classroom work, including the ability to secure that effective teaching and learning can take place and to manage pupil behaviour." The DES Report also worried whether the student teacher can achieve such expectation under that short period of arrangement (Cooke, 1991).

The Length of Teaching Practice

The length of teaching practice in the case of Sir Robert Black College of Education and the other three colleges is six weeks each year. The Council for the Accreditation of Teacher Education in the U.K. suggested

that the total arrangement for teaching practice for four years programme should be at least 100 days and 75 days for the three years programme (Cooke, 1991).

Concerning the length of teaching practice, people may have an assumption "the longer the better". According to Davis' (1976) research result, the above assumption is not valid. Davis compared two groups of student teachers at the University of Illinois who were allocated to teach in elementary schools for eight weeks and sixteen weeks respectively. There was no significant difference between the two groups of student teachers in terms of sophistication score and enhancement score. So he made the conclusion in his research that the experience in which a student teacher engaged during the eight-week practicum had merely been stretched to cover the sixteen-week period without much apparent change occurring in the nature of experience.

Chan (1983) investigated the attitudes of student teachers in Northcote College of Education towards the curriculum in the college. Both the second year students in 2-year and 3-year courses felt the duration of teaching practice was appropriate (3Y-2 74.07%, 2Y-2 82.81%)

and they also felt the theory they learnt from the college could be applied in teaching practice (3Y-2 79.01%, 2Y-2 64.06%).

Teaching Performance

The term teacher performance, teacher competence and teacher competency are often used interchangeably while assessing teachers but actually each term depicts different characteristics. Medley (1985) gave clear definition for these three terms.

Teacher performance refers to the pattern of behaviour a teacher displays while teaching a class.

Teacher competence as a personal characteristic and capability of the teacher that he/she processes and carries with him/her from one setting to another.

Teacher competency refers to a unit of knowledge, a skill, or a set of attitudes required for satisfactory performance as a teacher.

Short (1985) also found it difficult to distinguish the

difference between teaching performance and teacher competence. Instead of providing a single definition for each term, he presented four different conceptions of competence. Ashburn (1987) summarized them as the following four levels:

> 1. competence as behaviour or performance, the doing of particular things independently of purpose or intent.
>
> 2. competence as command of knowledge or skills, involving choosing and knowing why the choice is appropriate.
>
> 3. competence as level of capability which has been 'sufficient' through some judicious and public process.
>
> 4. competence as a quality of a person or state of being, including more than characteristics behaviours: 'performances, knowledge, skills, levels of sufficiency, or motives, or attitudes, or particular qualities.' (Short, 1985)

From Short and Ashburn's idea, teaching performance can be regarded as a kind of teaching competence.

Medley, Rosenblum and Vance (1989) attempted to operationalize the definition of a teacher's teaching competence. First of all, they suggested specifying a set of teaching and management tasks that competent teachers

must be able to perform. Secondly, they suggested to define competencies that teachers needed in order to perform the task specified. At last, they suggested designing a set of indicators of competence to measure individual teacher's teaching performance.

Defining the Criteria of Performance

McCullough and Mintz (1992) compared the concerns between the student-teachers at the entry level (second year) and those who had gone through the teaching practice (fifth year). The fifth-year student-teachers were more concerned about the classroom teaching skills and the impact they would have on their future pupils. In this study, the category of teaching skills included the motivation, methods, evaluation, materials, curriculum, planning, student needs, and classroom management. The teaching performance is the integration of these teaching skills.

The two major functional tasks for a teacher to fulfill in the classroom are the teaching task and the management task. As defined by Ryan and Anderson (1984), "teaching

tasks serve the function of involving the students with the planned lesson objectives, activities, and assignments," and "management tasks serve the function of maintaining both the flow of instruction and the involvement and cooperation of students in the planned lesson activities." The ability of a teacher in achieving the above aims is the crucial criteria in assessing teacher performance.

Seagren and Khamis (1985) conducted a comprehensive study and measured the improvement of the student teachers by means of the their ability to perform a list of 35 competence indicator statements. The statements were divided into five sub-scales to show their area of performance. They were:

1. Personal attributes - seven items
2. Knowledge about specific issues - four items
3. Catering for individual differences - seven items
4. Classroom performance - ten items
5. Organization performance - seven items

This is a student teacher oriented research and these variables do cover all the criteria for evaluating student teachers' teaching performance during teaching practice.

So Holdzkom (1987) argued to evaluate a teacher's performance by levels of teaching function. He designed an evaluation system in North Carolina and claimed this system as " starting with clear expectations for classroom performance and resulting to improve or enhance teachers' skills." The eight levels of function are listed as follows:

1. management of instructional time
2. management of student behaviour
3. instructional behaviour
4. instructional monitoring of student behaviour
5. instructional feedback
6. facilitating instruction
7. communicating within educational environment
8. performing non-instructional duties

But in the case of pre-service teachers and the six-weeks teaching practice, most student teachers most probably can cope with achieve in the areas of planning and organization of teaching, methods and skills of teaching, classroom management, student-teacher relationship, use of teaching aids and communication skills which usually exhibit in the above first six functions. So these factors could be selected to measure the student teachers' teaching performance.

Tomic (1991) suggested two approaches in research for the effectiveness of teacher behaviour in the introductory section of teacher training programme. The first approach should focus on whether and to what degree the teacher can apply the instructional skills that he or she has acquired in the college. The second approach should focus on whether and to what degree the teaching behaviours of the teacher produce the desired student learning outcomes. The first approach focused on the teaching performance which would be assessed through observation by lecturers.

Some educators suggested evaluating a teacher's performance by means of teaching outcome --- pupil's gain or whether pupils have produced the desired behaviour. This approach may be appropriate in assessing serving teachers' performance. It is not suitable to assess student teachers' performance while they are only required to carry out the teaching duty in practice schools for only six weeks.

Factors Influence Teaching Performance

There is an assumption that better academic performance can assure better teaching quality. Academic ability of preserves teachers is always regarded as a major factor that can predict a teaching performance. The academic ability as defined by using variables such as GPA and test scores are widely used as independent variable to study student teachers' performance (Guyton and Farkohi, 1987). Guyton and Farkohi found the GPAs were correlated significantly with the Teacher Certification Test and Teacher Performance Assessment Instrument. The upper level student teachers' GPA had a strong correlation with teaching performance (r-spearman=0.34, P<.01). Sophomore's GPA had only 0.18 in correlation (r-spearman=0.18, P<.01). Marso and Pigge (1991) used GPA result as a predictor of student teachers' teaching performance. They found the GPA result was correlated with student teaching performance significantly (F=10.52, p< .002).

Gender difference of student teachers are assumed to have strong relationship in changing the attitude about teaching. Pigge and Marso (1989) found female student

teachers had more concern about their impact upon pupils and a more positive attitudes about teaching than males were. Their research (1986, 1987) found male student teachers had more anxiety and less positive attitude over a period of teaching practice. Knight and Duke (1990) found that both male and female student teachers improved in the areas of "confidence in content knowledge" , " knowledge of and ability with effective teaching methods and techniques" , "ability to earn students' cooperation and maintain order" and " ability to organize and manage the details of a classroom" , but male student teachers changed more significantly than females. This can prove that student teachers of the different gender groups would improve their teaching competence through teaching practice in different magnitude.

Wiggins (1976) and Wiggins, Lederer, Salkowe and Rys (1983) found that the teachers teaching satisfaction did not correlate with teacher's age or teaching experience, but correlated positively and significantly with their personality type.

Evaluating Teaching Performance

The two fundamental approaches in evaluating teaching performance of student teachers are teacher testing and observation.

Teacher testing is widely employed in USA to assess teachers especially student teachers. Ashburn (1987) claimed that 44 of the 50 states have mandated some form of these measures to assess student teachers. They employed this approach because it is 'relatively inexpensive' and 'administratively simple' (George, 1985). Ashburn (1987) queried the adequacy of using a standardized paper-and-pencil test to measure a complex teaching task. She also queried the correlation between test score and teaching performance as well as teaching competence.

Teacher evaluation through observation is a prevailing and traditional approach in assessing teacher's performance, especially in preservice teacher training. Scholl (1984) described the experience of observing by raters as frightening and interfering. Ondrack (1986) claimed this approach may promote discomfort for supervisors and teach-

ers being evaluated. The contextual variations play a very important role in influencing teacher's performance (Medley, 1985). The contextual factors refer to the variation in teachers' concept, student learning ability, teaching content, school setting and principal leadership style etc.. These factors exercise strong influences towards teachers' teaching performance and are beyond the control of teachers. On the other hand, the differences among raters in observation skills, concepts and attitudes towards teaching and the ability in making judgment to teacher performance may distort the accuracy of evaluation. Medley and Coker (1987) found that the average principal's judgments of teachers' performance consistently remained in low accuracy.

Clapp (1983) offered four suggestions to develop a successful evaluation plan conducted by observers. They are:

1. clearly define evaluation criteria.
2. continuous, long-term evaluations.
3. provide for mixed teams of observers.
4. require rigorous evaluations.

Clapp provided a very substantial suggestion to cope with the discrepancy caused by rater difference.

Defino (1983) found that the performance ratings made by student teachers, cooperating teachers and university supervisors were all correlated significantly. Wood and Eicher (1989) found that the post student teaching ratings made by student teachers and by classroom supervising teachers were in close agreement (0.78).

Definition of Terms

Student Teacher

In this study, the term 'student teacher' refers to the first year students of the two-year full-time course (2Y1) in Sir Robert Black College of Education. (The information about S.R.B.C.E. and 2Y1 course programme is listed in Appendix I).

The total enrollment of the 2Y1 students in Sir Robert College of Education in 1991-92 are 160 (118 female and

42 male student teachers). They were selected through the Joint Selection Board organized by the staff from four Colleges of Education under the conditions listed in Appendix II.

Teaching Practice

In Hong Kong and U.K., teaching practice is a generally accepted term to describe the practice of placing student teachers to schools to teach in an actual classroom situation under the supervision of lecturers from the college and guidance from the principal and experienced teachers.

In Sir Robert Black College of Education, all the first year student teachers are required to participate in teaching practice in the second term of the first year programme. The duration for teaching practice usually lasts for six weeks and is conducted in primary schools.

Teaching Performance

From the review of the past researches in teacher training (Coates & Thoresen, 1976; Morris & Chissom, 1978; Seagren & Khamis, 1985; Ondrack, 1986; Holdzkom, 1987), the following aspects are designed as the major criteria to assess teaching performance in this study.

1. Classroom management
2. Planning and organization of teaching
3. Teaching methods and skills
4. Teacher-student relationship

The above four aspects are included in the student teacher Teaching Performance Appraisal Form which is designed by Sir Robert Black College of Education (appendix III). The 19 criteria were subsumed as the following sub-scales:

1. The teacher
2. Preparation
3. Performance
4. Classroom Management

The sub-scale of "teacher" referred to a teacher's appearance / manner, voice, alertness and attitude to teaching. "Preparation" referred to the writing of lesson

plan, making relevant teaching aids and providing suitable learning environment. "Performance" referred to the verbal and non-verbal communication skill, use of teaching aids, and the performance in all stages of teaching. "Classroom management" referred to the classroom discipline and teacher-student relationship. Overall is the sum of the above 4 sub-scales which reflected to the overall teaching performance.

Attitudes

In this study, the term 'attitude' is confined to the study of the student teachers' affective feeling towards teaching and the degree of confidence which they would commit to take up teaching as their career after teaching practice. The 30 attitude statements in the questionnaire (Appendix V) are selected from the Mississippi Student Teacher Attitude Inventory (Benton and Richardson, 1990) and the instrument of Ayers & Thompson (1990) based on the teacher training background of Hong Kong.

The questionnaire consisted of the two following factors:

1. Teaching satisfaction
2. Confidence towards teaching

The Different Levels of Congruency

Self-Directed Search (Appendix IV) would be used to collect data and classify student teachers into different types of personality. According to Holland's theory, the environment of teaching belongs to social type. Having identified the type of teaching environment as social type, the level of personality-environment congruency can be worked out. According to Holland's theory, four levels of congruency could be defined. However, in this study, two levels of congruency were defined, namely, congruency and incongruency. The results of the first code from the SDS are listed as follows:

Table 2: Distribution of Student Teachers' Personality Types.

Personality Type		No of Student Teachers
Realistic	(R)	0
Investigative	(I)	8
Artistic	(A)	17
Social	(S)	29
Enterprising	(E)	1
Conventional	(C)	2

From the result of table 2, it can be seen that there will be difficulty in defining the four levels of congruency. Only two levels of congruency can be defined.

CHAPTER 3

METHODOLOGY

Method

This study employed a survey and a field study through classroom observation.

Sample

The target population consisted of 160 first year student teachers enrolled in the two-year full-time course (2Y1) of Sir Robert Black College of Education for the year of 1991-92. Sixty subjects of the population were selected in this study according to the student allocation to the two lecturers involved in this study.

Procedure

The SDS Questionnaire

Prior to the teaching practice, the Self-Directed Search was translated into Chinese (Appendix IV) and the subjects in this study were requested to complete it prior to their teaching practice. The completion process was conducted in an assembly and supervised by the researcher in order to guarantee the return rate and reduce the scoring errors (Crites, 1986)made by the subjects.

The researcher summarized each copy of the SDS by adding the totals for each letter from the five sections. The three highest scores of personality types were recorded in a coding record. The whole process was finished by the researcher in order to reduce the coding error mentioned by Gelso et al (1973).

Classroom Observation

The sixty subjects were observed by two lecturers during the six-week teaching practice. Each student teachers had to be observed thrice either by one lecturer or two lecturers. There were thirty subjects who were observed by both lecturers involved in this study. These subjects were observed mainly on the teaching of Mathematics and the Chinese Language. The instrument of the observation was based on the pre-designed assessment form of the Sir Robert Black College of Education (Appendix III). After the supervision, two lecturers discussed the performance of the student teacher based on the assessment form in order to minimize the rater difference and the influence of external factors.

Attitude Questionnaire

The subjects were requested to fill in the Attitude Questionnaire (Appendix V) on the first day upon their return to the college upon completion of teaching practice. This was done under a normal classroom atmosphere

in which the author administered the distribution and collection of the questionnaire within 20 minutes.

Variables

1. Independent Variable

The independent variable is the level of congruency. As defined in the previous chapter, the level of congruency is dichotomous, i.e. congruency which refers to the personality of social type and incongruency which refers to the personality of other types.

2. Dependent Variables

The dependent variables are the teaching performance and teaching attitude. Teaching performance consists of four sub-scales, namely, the teacher, preparation, performance and classroom management. Teaching attitude consists of two sub-scales, namely, satisfaction and confidence towards teaching.

Null Hypotheses

1. There is no significant difference in the mean score of teaching performance between student teachers with different levels of personality-environment congruency.

2. There is no significant difference in the mean score of teaching attitude between student teachers with different levels of personality-environment congruency.

Data Analysis

The following analysis had been employed in this study:

1. Reliability

   a. Inter-judge reliability: Based on the common set of the 30 subjects observed by two lecturers, the inter-judge reliability would be reported.

b. The reliability coefficients of the instruments would be reported.

2. Analysis of Variance

One-way Analysis of Variance would be used to find out whether there was a significant difference in the mean scores of teaching performance and its sub-scales, as well as the attitude and its sub-scales between subjects of different levels of congruency.

3. Regression Analysis

Multiple linear regression would be used to predict the teaching performance.

CHAPTER 4

RESULTS

Sample

At the very beginning, sixty student teachers participated in the six-week teaching practice programme. Two of them withdrew during the teaching practice and one student teacher was not assigned to teach Chinese or Mathematics. These three cases were dropped from the analysis. The total number of subjects in this study was reduced to 57.

The personality types of the subjects was found by calculating the SDS scores. The distribution of the personality types of subjects was shown in Table 3.

Table 3: The Distribution of Student Teachers

PERSONALITY TYPE		FEMALE	MALE
Realistic	(R)	0	0
Investigate	(I)	1	7
Artistic	(A)	13	4
Social	(S)	23	6
Enterprising	(E)	1	0
Conventional	(C)	2	0

According to Holland's Model, teaching profession was taken as the Social type environment. Hence, the different levels of congruency can be classified. The number of Congruent subjects was found to be 29, whereas the number of Incongruent subjects was found to be 28. The two levels distribution was tabulated in Table 4.

Table 4: Distribution of Subjects in the 2-levels of Congruency

LEVEL	FEMALE	MALE
CONGRUENCY	23	6
INCONGRUENCY	17	11

Inter-Judge Reliability

The data of teaching performance were collected from 57 student teachers who were assigned to teach in 15 different primary schools. Two lecturers took up the responsibility to observe the teaching performance in the first three weeks. The observed lesson was confined to either Chinese or Mathematics. Two lecturers took up the observation duty and rated the performance by filling in the pre-designed form which is a 5-point scale in 0.5 interval. The appraisal form consisted of 19 items which were grouped into 4 sub-scales: Teacher, Preparation, Performance and Classroom Management. In addition to the completion of the pre-designed form, lecturers were requested to fill in the comments and suggestions at the right-hand

side of the Appraisal Form. Based on the written comments, the two lecturers discussed the results and came to a consent on subjects' performance. Thus, the difference between the two lecturers upon subjects' performance was minimized.

The rating difference between the two lecturers would be a crucial factor which directly influenced the validity of the whole study. Thus the inter-judge reliability must be calculated. In this study, 30 student teachers were observed by both lecturers. The ratings were recorded and the correlation coefficients of the four subscales were reported in Table 5.

Table 5: The Inter-judge Reliability Coefficients of the Instrument of Teaching Performance

Scale	Reliability Coefficient
Teacher	.9292**
Preparation	.9061**
Performance	.8947**
Classroom Management	.7253**

** $p < 0.001$

From Table 5, it was revealed that there was high internal consistency in rating between the two lecturers involved in this study. The Correlation Coefficients of the two lecturers in the four sub-scales were substantially high, except for classroom management. The sub-scale of classroom management was .7253, which was comparatively lower than the other three sub-scales. It may be due to the difference of managing style and the variation of teaching approach among student teachers. Student teachers were required to teach from primary one to primary six during the teaching practice period. Hence the teaching of primary one to primary three were carried out in Activity Approach whereas primary four to primary six were carried out in traditional approach.

Attitude Questionnaire

The attitude questionnaire consisted of 30 attitude statements which was derived from the Mississippi Student Teacher Attitude Inventory (Benton and Richardson, 1990) and the instrument of Ayers & Thompson (1990). The selec-

tion of items was based on the Hong Kong teacher training background.

The questionnaire consisted of the two following factors:

1. Teaching satisfaction
2. Confidence towards teaching

The reliability coefficients of the complete questionnaire and the two factors were listed in Table 6.

Table 6: The Reliability of the Attitude Questionnaire

Scale	No. of Item	Alpha	Standardized Alpha
Teaching Satisfaction	(19)	.7312	.7294
Confidence Towards Teaching	(11)	.6309	.6512
Overall	(30)	.7759	.7807

The mean and standard deviation of the above two factors were listed in table 7.

Table 7: Mean and Standard Deviation of the Two Attitude Factors

Scale	MEAN	STANDARD DEVIATION
Teaching Satisfaction	49.982	5.620
Confidence Towards Teaching	25.421	3.741

The reliability coefficients of student teachers in teaching satisfaction and confidence towards teaching was moderately high, but acceptable. The result revealed that there were variances among the student teachers. The variances would be created by the variation of environmental factors such as: the school environment, school facility, pupil's academic ability and learning attitude. These factors would influence the formation of affective attitude among student teachers, particularly when this was their first teaching or working experience.

Scaling the Scores of Teaching Performance

Although the results in table 5 revealed that there was high internal consistency in the performance rating between the two lecturers involved in this study, but the difference in the respective ratings still existed. In order to scale the ratings given by the two lecturers, linear regression method was employed. The data of the 30 subjects commonly observed by the two lecturers were used for scaling the scores. If the subjects were observed by lecturer 2 only, the ratings from lecturer 1 were calculated through the ratings of lecturer 2 as predictors and vice versa. Thus the beta coefficient and the constant were found first. Then a regression line was set up to adjust the ratings.

The following equations were used to scale the ratings of Lecturer 1:

TEACHER1=0.989465*TEACHER2-0.208114

PREPARATION1=0.818484*PREP2+2.232296

PERFORMANCE1=0.968522*PFORM2-0.49018

CLASSROOM MANAGEMENT1=0.62931*MANAGE2+2.876437

The following equations were used to scale the ratings of Lecturer 2:

TEACHER2=0.872687*TEACHER1+2.236042

PREPARATION2=1.0032*PREP1+1.0612

PERFORMANCE2=0.826466*PFORM1+6.07811

CLASSROOM MANAGEMENT2=0.835878*MANAGE1+1.103053

Finally, the final ratings of each sub-scale was the average of the respective ratings given by both lecturers:

TEACHER=(TEACHER1+TEACHER2)/2

PREPARATION=(PREPARATION1+PREPARATION2)/2

PERFORMANCE=(PERFORMANCE1+PERFORMANCE2)/2

CLASSROOM MANAGEMENT=(CLASSROOM MANAGEMENT1+
CLASSROOM MANAGEMENT2)/2

OVERALL PERFORMANCE=TEACHER+PREPARATION+PERFORMANCE
+CLASSROOM MANAGEMENT

Results of the 4 sub-scales and the overall teaching performance were reported in Table 8.

Analysis of Variance on the Teaching Performance

After scaling the scores of teaching performance, analysis of variance was employed on analyzing the mean scores of the four sub-scales and the overall teaching performance in subjects of congruency and incongruency groups.

Table 8: Analysis of Variance on Teaching Performance

Scale	F	DF	MSE	Mean Score [a] Congruent Gp / Incongruent Gp
Teacher	36.675***	1/56	70.515	15.68 (1.37) / 13.46 (1.4)
Preparation	33.759***	1/56	101.052	19.01 (1.75) / 16.35 (0.86)
Performance	26.494***	1/56	227.157	29.64 (3.14) / 25.65 (2.69)
Classroom Management	15.818***	1/56	8.212	7.78 (0.81) / 7.02 (0.62)
Overall	33.309***	1/56	1324.021	72.12 (6.65) / 62.48 (5.93)

*** $P < 0.001$

[a] number in brackets indicates the Standard Deviation

From the results in Table 8, it was seen that there was significant difference on the teaching performance between the congruency and incongruency group of the subjects in the 4 sub-scales and the overall teaching performance. The first null hypothesis that "there is no significant difference in the mean score of teaching performance between subjects with different levels of personality-environment congruency" could be rejected at the level of 0.001.

Analysis of Variance on Attitude towards Teaching

Attitude towards teaching consisted of two sub-scales; namely, teaching satisfaction and confidence towards teaching. "Teaching satisfaction" referred to the affective feeling that a student teacher created during the teaching practice. "Confidence" towards teaching referred to the confident level that a student teacher exhibited after teaching practice. Analysis of variance was employed on analyzing the mean scores of the two attitude sub-scales in the subjects of congruency and incongruency groups. The results were listed in Table 9.

Table 9: Analysis of Variance on Teaching Attitude

Scale	F	DF	MSE	Mean Score [a] Congruent Gp. / Incongruent Gp.
Teaching Satisfaction	1.164	1/56	16.241	24.89 (3.68) / 25.96 (3.79)
Confidence Towards Teaching	0.158	1/56	5.061	49.69 (5.37) / 50.29 (5.96)

[a] number in brackets indicates the Standard Deviation

The results of Table 9 indicated that there was no significant difference on the attitude scores between subjects of the congruency and the incongruency group. So the null hypothesis that "there is no significant difference in the mean score of teaching attitude between student teachers with different levels of personality-environment congruency" could not be rejected.

Prediction on Teaching Performance

According to this study, a student teacher's overall teaching performance could be predicted by 4 independent variables; namely, sex, congruency, satisfaction and confidence towards teaching. The teaching performance of the student teacher could be calculated from the following equation:

OVERALL PERFORMANCE=0.0417*SEX-0.4289*SATISFACTION
-9.2423*CONGRUENCY+0.1135*CONFIDENCE
+CONSTANT

The F-value showed that the regression equation had a significant result in predicting teaching performance of student teacher ($F(4,52)=9.0715$, $MSE=39.76$, $P<0.0001$). The variance explained by this equation was found to be 41.1%, which was quite substantial.

Using the stepwise regression analysis (see table 10), it was found that the factor "CONGRUENCY" alone could explain 37.7% of the total variance ($F(1,55)=33.31$,

MSE=39.749, P<0.0001). This result revealed that congruency could be regarded as the most dominant factor for predicting the teaching performance of student teachers.

Table 10: Stepwise Regression Analysis on Teaching Performance

Variable	R	R^2	MSE	F
Congruency	0.614	0.377	39.749	33.31****

**** P < 0.0001

CHAPTER 5

SUMMARY, DISCUSSION AND RECOMMENDATION

Summary

The rationale of this study was based on Holland's congruence theory. Meir (1989) examined the application of congruency theory and found that it could be applied in four tiers. This study employed the third tier that is environmental fit claimed by Meir to investigate the different issues. This study intended to find out whether there were correlations between personality-environment fit and teaching performance among student teachers.

The research method used in this study was a survey and field study through classroom observation. It identified whether there was variance in teaching performance between the congruent and the incongruent subjects while they were placed in primary schools for their first teaching practice. There were 57 subjects in this study. They were the first year students of the 1991-1993 two-year full-time course in Sir Robert Black College of Education.

One of the aims of the first year training programme in

Sir Robert Black College of Education focused on training for becoming competent primary school teachers. The programme covered the teaching method of the general subjects in primary schools. They were Chinese Language, Mathematics, Social Studies, Science and Health Education. So the student teachers were well equipped in teaching the general subjects while they were assigned to teach in primary schools in the first teaching practice.

The two lecturers who conducted the classroom observation in this study have been working together in the primary training team for five years. They are experienced enough to assess what is good teaching performance and marked the appraisal form appropriately.

The classroom observation was limited to the teaching of Mathematics and Chinese Language. Because most of the student teachers would be assigned to teach either Chinese Language or Mathematics, or even both of them during teaching practice in primary schools. The arrangement ensured the observation was limited to the teaching of Chinese Language and Mathematics.

There were three sets of data in this study. The first

set data was collected through the Self-Directed Search which was used to classify student teachers into the congruent and incongruent group. The calculation of scores was done by the author in order to minimize the scoring error. The second set of data was the teaching performance of each student teachers during teaching practice. The third set of data was collected through the questionnaire to investigate the attitude of student teachers towards teaching after teaching practice. The SPSS-X was employed to analyze the data.

The analysis revealed the following results:

1. There was significant difference in the mean scores of teaching performance between the congruency and incongruency group.

2. The difference in the mean scores of attitude between the congruency and incongruency group was not significant.

Discussion

The application of Holland's theory in the field of teaching

The number of research papers about applying Holland's theory in the profession of teaching was not plentiful. Most of the studies concerning the profession of teaching employed university students as research subjects. The personality type of the research subjects and the correlation between major electives academic performance, their career choice and even the changes of career after graduation were the research interest of many scholars. The teacher training background in Hong Kong, especially in the non-graduate training sector, is entirely different from the situation in America. Campbell and Holland (1972) and Holland (1973) mentioned that the talent that a Social type person should possess was the high verbal skill and good communication skill. If compared with the other types, the talent which is characteristic of a Social type person should entail better teaching performance. This is the theoretical background in the formation of the First Null Hypothesis.

The First Null Hypothesis

The first null hypothesis was that "there is no significant difference in the mean scores of teaching performance between student teachers with different levels of personality-environment congruency." Student teachers were divided into the congruency group and the incongruency group. In order to compare the teaching performance between the two groups, classroom supervisions were conducted by two lecturers and data were recorded through the appraisal form. According to the result of statistical analysis, it indicated that there were significant differences for the four sub-scales between the congruent and the incongruent groups. The four sub-scales were the teacher ($F(1,56)=36.675$, $MS_E=70.515$, $P<.001$), preparation ($F(1,56)=33.759$, $MS_E=101.052$, $P<.001$), performance ($F(1,56)=26.494$, $MS_E=227.152$, $P<.001$) and classroom management ($F(1, 56)=15.818$, $MS_E=8.212$, $P<.001$).

In addition to the analysis reported in the previous paragraph, verbal skill and communication skills were specifically studied to test the validity of Campbell

and Holland (1972) and Holland's theory (1973). From the results of the statistical analysis, verbal skill ($F(1,56)=27.704$, $MSE=15.01$, $P< .001$) and communication skill ($F(1,56)=24.86$, $MSE=55.224$, $P< .001$) were found to be different significantly. It indicated that a congruent person had higher verbal skill and better communication skill than an incongruent person in this study. These results supported the theories of Campbell and Holland (1972) and Holland (1973) regarding the possession of high verbal skill and communication skill which are characteristic of the social type person.

The Second Null Hypothesis

The second null hypothesis was that "there is no significant difference in the mean scores of teaching attitude between student teachers with different levels of personality-environment congruency." In this study, the variable "teaching attitude" was scaled down into two sub-scales, namely, "satisfaction" and "confidence towards teaching". In order to compare the teaching attitude of the student teachers, an attitude questionnaire was designed and translated into Chinese. The attitude

questionnaire was distributed to student teachers immediately after they returned to the college after teaching practice. According to the statistical results, the differences of "satisfaction" and "confidence towards teaching" between the congruent and the incongruent group were not significant. Thus, the second null hypothesis could not be rejected.

Concerning the relationship of personality-environment congruency and teaching satisfaction, Chapman and Lowther (1982) conducted a study about the graduates of the teaching certificate course in the University of Michigan. In Chapman and Lowther's study, they employed a questionnaire to study the relationship between teaching skills and career satisfaction among teachers. The result was positive. Wiggins (1976) investigated the teachers of educable mentally retarded and found that job satisfaction was significantly related to teachers' personality type. Wiggins, Lederer, Salkowe and Rys (1983) jointly conducted a research about the job satisfaction of teachers in the five different majors. Results indicated that job satisfaction correlated positively and significantly with scores on the personality types, especially the Social and the Investigative type.

In this study, the result indicated that both the congruency and the incongruency group student teachers found satisfaction and had confidence towards teaching after teaching practice. So there was no significant difference between the two groups in this respect. This result differed with the findings mentioned in the past researches. Most probably, it was created by the data collection time-lag.

The data of performance was collected through observation by two lecturers in the first two weeks of teaching practice. After the observation, lecturers were requested to give comments on the performance and to provide suggestions to student teachers for improvement. But the data of the other observations was not used for analysis. On the other hand, the data about teaching attitude was collected upon completion of teaching practice. There were three to four weeks' time-lag between the data collection of teaching performance and teaching attitude. Most student teachers had improved in teaching skill which would make a positive impact on the teaching attitude during the time-lag.

Secondly, the observation which was conducted was limited to the teaching of Mathematics and Chinese Language and the data on teaching performance was collected accordingly. But each student teacher had two electives, they might not perform well in the teaching of Mathematics and Chinese Language, but they would have performed much better if they had been assigned to teach their electives. So the positive reinforcements would evoke the satisfaction feeling, confidence in teaching and indeed positive attitude (Meir, Keinan, & Segal, 1986). This change can be further explained by Meir. Meir (1989) analyzed the occupation congruency. He mentioned about a new research direction " within-occupation congruency". He argued that it was hard to find an occupation which was homogeneous under the rapid advancement of technology and precise diversification. He suggested using "within occupation specialty congruency" to replace the occupational congruency. Specialty congruency correlated with higher satisfaction than occupation congruency (Meir & Yaari, 1988).

Thirdly, there would have been variance in performance among student teachers if they had been teaching different levels of class. For example, a student teacher would

have performed better while he/she was teaching primary one than teaching primary six or vice versa. So the data of teaching performance could reflect the performance of certain student teacher at that level of that particular period only. It might not be a useful indicator of his/her affective feeling towards teaching as a whole. So the result for both the student teachers in the congruency and the incongruency group shown satisfaction and confidence towards teaching could be understood in the above light.

This result also matched Spokane's (1985) explanation about individuals' vocational behaviour. He mentioned that the incongruent individuals would be influenced by the dominant environment and as a result they changed in the direction of congruence. The incongruent student teachers would be changed or moving close to the congruent group because of the influence of the dominant environment ------- teaching environment during the six weeks teaching practice.

Limitations of the Research

Some of the limitations envisaged in the research are as follows:

1. This research employs the 'purposive sampling method' which may not be an ideal one. Under the constraint of shortage in human resources, the result of such sampling cannot be generalized.

2. As the sample size was quite small (57), it was not possible to define more levels other than two levels of personality-environment congruency.

3. Due to administration difficulty, it was difficult to arrange the two lecturers to observe the same 57 student teachers. Hence, only 30 student teachers were observed by both lecturers.

4. As the student teachers were observed by two lecturers and the assessment of teaching performance was limited to the observation of the teaching of Mathematics and Chinese. Thus the differences caused by the discrepancies of subject areas were minimized.

5. Although there were differences in teaching Mathematics and Chinese, the observation was based on a standardized appraisal form with the main focus on the general teaching performance. Thus the inter-subject discrepancy was reduced to the minimum.

Recommendation

Although some significant results were found in this study, further studies could be conducted so that more light will be shed in this area. The following points should be noted:

1. The population size.

The population size should be enlarged. If the population size could be enlarged, the external validity would be increased.

2. Levels of congruency.

Congruency in this study was defined as the fitness of personality and the working environment. According to Holland's theory, the environment of teaching was de-

fined as social type. Having identified the type of teaching environment, the level of personality-environment congruency can be worked out. According to Holland's theory, four levels of congruency could be defined. The Social type would be the first level, the Artistic and the Enterprising type would be the second level, the Investigative and the Conventional type would be the third level and the Realistic type would be the fourth level. However, in this study, as limited by the population size, there was difficulty in defining the four levels of congruency. Only two level of congruency can be defined, namely, congruency and incongruency.

3. A new research attempt------the change of incongruent subjects.

Spokane (1985) reviewed the research papers concerning the congruence in Holland's theory and claimed that if personality and environment incongruency existed, incongruent individuals would be influenced by the dominant environment and would change in the direction of congruence. To investigate the change of incongruent subjects in the educational environment would be an interesting recommendation for the next research.

4. Another attempt--- "within-occupation congruency".

Wiggins, Lederer, Salkowe and Rys (1983) jointly conducted a research involving the idea of "within-occupation congruency" in teaching. The result was positive and it supported Holland's congruency theory. Meir (1989) elaborated the congruency theory and suggested the idea of "within-occupation congruency" which could meet the rapid advancement of technology and the diversified specialties within occupations. If the size of research subjects could be enlarged, the idea of within-occupation congruency could be considered as the main theme of the next study.

REFERENCES

Alston, H.L., Wakefield Jr. J.A., Doughtie, E.B. and Bobele, R.M. (1976). Correspondence of Constructs in Holland's Theory for Male and Female College Students. Journal of Vocational Behaviour, 8, 85-88.

Ashburn, E. A. (1987). Three Crucial Issues Concerning the Preparation of Teachers for Our Classrooms: Definition, Development and Determination of Competence. ERIC no: ED 281912.

Ayers, J.B. & Thompson, T.A. (1990). Perceptions of Preparedness for Student Teaching. ERIC no: ED 326530.

Benton, G.J. & Richardson, G. (1990). A Survey of Attitudes toward Student Teaching. ERIC no: ED 326526.

Berliner, D.C. (1985). Laboratory Settings and the Study of Education. Journal of Teacher Education, 36(6), 2-8.

Bohnig, G. (1978). Subjective Judgment Pitfalls in Evaluating Student Teachers. Teacher Educator, 14(1), 13-15.

Briscoe, C. et al. (1989). Assessment of Performance of Field Experiences at Clemson University. ERIC no. ED303444.

Burstein, N.D. (1988). From Observing to Teaching: An Examination of the Relationships between Student Teachers' Activities, Perceptions and Performance. ERIC no: ED 313325.

Campbell, D.T. & Stanley, J.C. (1963). Experimental and Quasi-experimental Designs for Research. Chicago: Rand McNally.

Castaneda, G.G. et al. (1984). Holland's Type: A Cross-Cultural Comparision of Parents and Offspring. ERIC no: ED 247493.

Chan, K.W. (1983). Student Teachers ' Attitudes towards the Curriculum in the College of Education. CUHK Education Journal, 11(2), 54-59.

Chapman, D.W. & Lowther, M.A. (1982). Teachers' Satisfaction with teaching. Journal of Educational Research, 75(4), 241-247.

Cheung, K.L. & Lew, J.F. (1981). The Criteria of Teacher Competence as Perceived by Students, Student Teachers and Serving Teachers in Hong kong. CUHK Education Journal, 9(1), 47-63.

Chung, C.M. (1983). Personality and Vocational Choice: Holland's Model. CUHK Educational Journal, 11(2), 40-47.

Clapp, B.E. (1983). Tennessee Teacher Career Ladder. ERIC no: ED 241153.

Coates, T.F. & Thoresen, C.E. (1976). Teacher Anxiety: A Review with Recommendations, Review of Educational Research, 46, 159-184.

Cooke, B., Pang, K.C., Kan, F. & Shek, C. (1990). Research on Beginning Teachers in Hong Kong. Educational Research Journal, 5, 65-80.

Cooke, B., Pang, K.C. (1990). Beginning to Teach in Hong Kong: A Guide to Induction in Schools. Department of Curriculum Studies, University of Hong Kong.

Cooke, B. (1991). Standards in Teacher Education. Challenge and Change in Teacher Education, University of Hong Kong.

Davis, M.D. (1976). Eight Weeks Versus Sixteen Weeks of Student Teaching. The Journal of Educational Research, 70(1), 31-34.

Davis, M.D. & Zaret, E. (1984). Needed in Teacher Education: A Developmental model for Evaluation of Teachers, Perservice to Inservice. Journal of Teacher Education, 35(5), 18-22.

Defino, M. E. (1983). The Evaluation of Student Teachers. ERIC no: 240103.

Dropkin, S. & Taylor, M. (1963). Perceived Problems of Beginning Teachers and Related Factors. Journal of Teacher Education, 14, 384-390.

ECR5, (1992). Education Commission Report No.5, pp. 46-47.

Evans, H.L. (1986). Overcoming the Problems of Field Experiences in Teacher Education: Cultural Dimensions. ERIC no. ED 273611.

Frantz, T.T. & Walsh, E.P. (1972). Exploration of Holland's Theory of Vocational Choice in Graduate School Environments. Journal of Vocational Behaviour, 2, 223-232.

Gati, I. (1989). Person-Environment Fit Research: Problems and Prospects. Journal of Vocational Behaviour, 35, 181-193.

Gelso, C.J., Collins, A.M., Williams, R.O. and Sedlacek, W.E. (1973). The Accuracy of Self-Administration and Scoring on Holland's Self-Directed Search. Journal of Vocational Behaviour, 3, 375-582.

George, P. (1985). Teaching Testing and the Historically Black College. Journal of Teacher Education, 36(6), 54-57.

Giltin, A. (1981). Horizontal Evaluation: An Approach to Student Teaching Supervision. Journal of Teacher Education, 32(5), 47-50.

Glassberg, S. and Sprinthall, N. A. (1980). Student Teaching: A Developmental Approach. Journal of Teacher Education, 31(2), 31-38.

Guyton, E. & Farokhi, E. (1987). Relationships among Academic Performance, Basic Skills, Subject Matter Knowledge, and Teaching Skills of Teacher Education Graduates. Journal of Teacher Education, 38, 37-42.

Helson, R. & Mitchell, V. (1978). Personality. Annual Review of Psychology, 29, 355-585.

Heneman, H.G. (1974). Comparisons of Self- and Superior Ratings of Managerial Performance. Journal of Applied Psychology, 59, 638-642.

Holdzkom, D. (1987). Appraising Teacher Performance in North Carolina. Educational Leadership, April, 40-43.

Holland, J. I. (1965). Manual for the Vocationl Preference Inventory. Palo Alto: Consulting Psychologists Press.

Holland, J. I. (1966). The Psychology of Vocational Choice: A Theory of Personality Types and Model Environment. Waltham, Masschusettes, Blaisdall.

Holland, J. I. (1970). Manual for the Vocationl Preference Inventory. Palo Alto: Consulting Psychologists Press.

Holland, J. I. (1971). A Counselor's Guide for Use with the Self-Directed Search: A Guide to Educational and Vocational Planning Palo Alto: Consulting Psychologists Press.

Holland, J. I. (1973). Making Vocational Choices: A Theory of Careers. Englewood Cliffs, NJ: Prentice Hall.

Khan, S.B., Alvi, S.A., Shaukat, S., Hussain, M.A. & Baig, T. (1990). A Study of the Validity of Holland's Theory in a Non-Western Cultural.Journal of Vocational Behaviour, 36, 132-146.

Knight, R.S. & Duke, C.R. (1990). Knowing Your Audience: Pre and Post Assessment of Pre-service teachers' Attitudes and Perceptions. ERIC no: 319684.

Kohlberg, L. (1968). Stage and Sequence: The Cognitive-Developmental Approach to Socialization. In D. A. Goslin (Ed.), Handbook of Socialization Theory and Research. Chicago: Rand McNally.

Kwak, J.C. & Pulvino, C.J. (1982). A Mathematical Model for comparing Holland's Personality and Environmental Codes. Journal of Vocational Behaviour, 21, 231-241.

Kwo, W.Y.Ora (1990). Thinking Patterns of Student Teachers: Implications for Teacher Education. Papper presented in the Seventh Annual Conference of H.K. Educational Research Association.

Marso, R.N. & Pigge, F.L. (1991). The Identification of Academic, Personal and Affection Predicators of Student Teaching Performance. ERIC no. ED 341651.

Matthews, D. & Walsh, W.B. (1978). The Predictive Efficiency of Holland's SDS Summary Codes in Terms of Career Choice: A Four-year . Journal of Vocational Behaviour, 20, 294-303.

Maxie, A.P. (1989). Student-teachers' Concerns and the Student-teaching Experience: Does Experience Make a Difference? ERIC no. ED308164.

McCullough, L.L. et al. (1989). In the Beginning: The Questions of Teacher Education Students. ERIC no: ED 306215.

McCullogh, L.L. & Mintz, S.L. (1992). Concerns of Pre-service Students in the USA about the Practice of Teaching. Journal of Education for Teaching, 18(1), 59-67.

McGowan, A.S. (1982). The Predictive Efficiency of Holland's SDS Summary Codes in Terms of Career Choice: A Four-Year Follow-

Up. Journal of Vocational Behaviour, 20, 294-303.

Medley, D.M. (1982). Encyclopedia of Educational Research, 5th ed., p.1894.

Medley, D.M. (1985). Issues and Problems in the Validation of Teaching and Teacher Professional behaviours. ERIC no: ED 261085.

Medley, D.M. & Coker, H. (1987). The Accuracy of Principals' Judgments of Teacher Performance. Journal of Educational Research, 80(4). 242-247.

Medley, D.M., Rosenblum, E.P. & Vance, N.C. (1989). Assessing the Functional Knowledge of Participants in the Virginia Beginning Teacher Assistance Program. The Elementary School Journal, 89(4), 495-510.

Meier, S.T. (1991). Vocational Behaviour, 1989-1990: Vocational Choice, Decision-Making, Career Development Interventions, and Assessment. Journal of Vocational Behaviour, 39, 131-181.

Meir, E.I. (1989). Integrative Elaboration of the Congruence Theory. Journal of Vocational Behaviour, 35, 219-230.

Meir, E.I. & Hasson, R. (1982). Congruence between Personality Type and Environment Types as a Predictor of Stay in an Environment. Journal of Vocational Behaviour, 21, 309-317.

Meir, E.I., Keinan, G., & Segal, Z. (1986). Group Importance as Mediator between Personality-Environment Congruence and Satisfaction. Journal of Vocational Behaviour, 28, 60-69.

Meir, E.I. & Yarri, Y. (1988). The Relationship between Congruent Specialy Choice within Occupation and Satisfaction. Journal of Vocational Behaviour, 33, 99-117.

Morris, J. E. and Chissom, B. S. (1978). Student Teaching Concerns Before and After Student Teaching. ERIC no. ED161866.

Mount, M.K. & Muchinsky, P.M. (1978). Person-Environment Congruence and Employee Job Satisfaction: A Test of Holland's Theory. Journal of Vocational Behaviour, 13, 84-100.

O'Connell, T.J. & Sedlacek, W.E. (1971). The Reliability od Holland's Self-Directed Search for Educational and Vocational Planning. Counseling Center Research Report, University

of Maryland.

O'Neil, J.M. & Magoon, T.M. (1977). The Predictive Power of Holland's Investigative Personality Type and Consistency Levels Using the Self Directed Search. Journal of Vocational Behaviour, 10, 39-46.

O'Neil, J.M. (1977). Holland's Theoretical Signs of Consistency and Differentiation and Their Relationship to Academic Potential and Achievement. Journal of Vocational Behaviour, 11, 166-173.

O'Neil, J.M., Magoon, T.M. & Tracy, T.J. (1978). Status of Holland's Investigative Types and their Consistency Levels seven Years Later. Journal of Counseling Psychology, 25, 530-535.

Ondrack, D.A. (1986). A Review and Analysis of Performance Appraisal Process. The Ministry of Education, Ontario, Canada.

Pigge, F. L. and Marso, R. N. (1986). Relationships between Student Characteristics and Changes in Attitudes, Concerns, Anxieties and Confidence about Teaching During Teacher Preparation. ERIC no. ED269399.

Pigge, F.L. and Marso, R.N. (1987). Influence of Student Teaching and Student Characteristics on Anxieties, Concerns, and Attitudes About Teaching. ERIC no: ED 274665.

Pigge, F.L. and Marso, R.N. (1989). The Influence of Preservice Training and Teaching Experience upon Attitude and Concerns about Teaching. Teaching & Teacher Education, 5(1), 33-41.

Pigge, F. L. and Marso, R. N. (1990). A Longitudinal Assessment of the Affective Impact of Preservice Training on Prospective Teachers. Journal of Experimental Education, 85(4), 283-289.

Peiser, C., & Meir, E. I. (1978). Congruency, Consistency and Differentiation of Vocational Interests as Predictors of Vocational Satisfaction and Preference Stability. Journal of Vocational Behaviour, 12, 270-278.

Purcell, T.D. & Seiferth, B.B. (1981). Student-Teacher Educational Values: Changes Resulting from Student Teaching. ERIC no. 220460.

Purpel, D. (1967). Student Teaching. Journal of Teacher Educa-

tion, 18(1), 20-24.

Raphael, K.G. & Gorman, B.S. (1986). College Women's Holland-Theme Congruence: Effects of Self-knowledge and Subjective Occupational Structure. Journal of Counseling Psychology, 33, 143-147.

Ryan, D.W. & Anderson, L.W. (1984). Improveing the Content and Process of Pre- and In-service Teacher Training. Evaluation in Education, V.8, 113-131.

Scholl, R.L. (1984). Linking Pre-service and In-service Teacher Salf-assessment: A Model for Instructional Improvement. ERIC no: ED 241460.

Seagren, A. T. and Khamis, M. (1985). American and Australian Elementary Student Teachers' Perceptions of the Role of College Programs, Student Teaching, and Personal Attributes, in Influencing Certain Teaching Competencies. ERIC no. ED260006.

Securro, S. J. and Owen, I. (1982). Student Perception od Early Field Experience Components, Teacher Education Program, West Virginia. ERIC no. ED261016.

Short, E.C. (1985). The Concept of Competence: Its Uses and Misuse in Education. Journal of Teacher Education, 36(2), 2-6.

Spokane, A.R. (1985). A Review of Research on Person-Environment Congruence in Holland's Theory of Creers. Journal of Vocational Behaviour, 26, 306-343.

Strong, E.K. revised by Campbell, D.P. (1966). Strong Vocational Interest Bank Manual. Stanford University Press.

Swanson, J.L. and Hansen, J.C. (1986). A Clarificationof Holland's Construct of Differentiation: The Importance of Score Elevation. Journal of Vocational Behaviour, 28, 163-173.

Tomic, W. (1991). Training Programs in Research into the Effectiveness of Teacher Behaviour. Journal of Education for Teaching, 17(2), 181-188.

Turner, R.G. & Horn, J.M. (1975). Personality Correlates of Holland's Occupational Types: A Cross Cultural Study. Journal of Vocational Behaviour, 6, 379-389.

Vansickle, T.R. & Prediger, D.J. (1991). Placing Occupations on Holland's Hexagon via Scores for Holland's Type. ERIC no: 330837.

Walsh, W.B. & Hanle, N.A. (1975). Consistent Occupational Preferences, Vocational Maturity, and Academic Achievement. Journal of Vocational Behaviour, 7, 89-97.

Wiggins, J.D. (1976). The Relationship of Job Satisfaction to Vocational Preference among Vocational Preference among Teachers of the Educable Mentally Retarded. Journal of Vocational Behaviour, 8, 13-18.

Wiggins, J.D., Lederer, D.A., Salkowe, A. and Rys, G.S. (1983). Job SAtisfaction Related to Tested Congruence and Differentiation. Journal of Vocational Behaviour, 23, 112-121.

Wiley M.O. & Magoon, T.M. (1982). Holland High Point Social Types: Is Consistency Related to Persistence and Achievement? Journal of Vocational Behaviour, 20, 14-21.

Zener, T.B. & Schnuelle, L. (1972). An Evaluation of the Self-Directed Search: A Guide to Educational and Vocational Planning. Research Report No. 124. Centre for Sccial Organization of Schools, Johns Hopkins University.

Appendix 1

Sir Robert Black College of Education and It's Courses

The College was first established in 1960 as a branch of Grantham Training College. In 1961, it became an independent College named Sir Robert Black Training College after His Excellency the Governor.

From its nondescript beginnings in 1960, the College has developed into an institution offering a variety of courses. In September 1991, the College will offer the following courses : the Full-time Two-year Course, the Full-time Three-year Course and the Full-time Advanced Course of Teacher Education for qualified teachers specializing in the teaching of Physical Education. Also offered are three in-service courses : the Three-year Part-time In-service Course of Training for Primary School Teachers, the Three-year Part-time In-service Course of Training for Special School Teachers and the Two-year Part-time In-service Course of Training for Teachers of Children with Special Educational Needs.

(excerpted from the College Handbook of S.R.B.C.E)

The Areas of Study for the First Year Student-Teachers

They are required to pass both the course work and the teaching practice in their training period. The first year course study of the two-year full-time course in Sir Robert Black College Of Education is organized in units grouped under 4 areas. I only introduce the areas of study in the first year. According to the college handbook, in the first year of the course, students will be expected to pursue the following areas of study :-

Area A	PROFESSIONAL STUDIES	
	Education	6 units
	Primary Studies and Methodology	13 units
	Educational Technology	4 units
	Total :	23 units

Area B	ELECTIVE STUDIES	
	Elective I	8 units
	Elective II	8 units (academic subj.)
	or	10 units (cultural subj.)
	Total :	16 units (academic subj.)
	or	18 units (cultural subj.)

Area C	PRACTICAL TEACHING	
	Preparation, Teaching and Follow-up	15 units

Area D	GENERAL STUDIES	
	Language Skills (Chinese)	6 units
	Language Skills (English)	6 units
	Complementary Programme	1 unit
	Total :	13 units

GRAND TOTAL : 67 UNITS or 69 UNITS

(excerpted from the College Student Handbook)

A student must satisfactorily complete at least 21 units in Area A, at least 14 units in Area B (if both Electives are academic subjects) or at least 16 units in Area B (if Elective II is a cultural subject), the 15 units in Area C, and at least 11 units in Area D. In the Area C, teaching practice is the only assessment for student-teachers. They must get at least grade C in this area, otherwise they will be regarded as fail in the training programme.

Appendix II

Minimum Requirements for Application

The minimum requirements for the admission of two-year full-time students are listed below:

1. Applicants should have completed two years of education beyond the level of Secondary 5 in a secondary school.

2. Applicants should have reached eighteen years of age by 30 September 1991.

3 (a) Applicants should have attained at least Grade E in SIX DIFFERENT subjects at H.K.C.E.E. level in one sitting.

(b) Applicants should have attained Grade E or above in at least TWO subjects at A-Level in H.K.A.L.E., plus at least Grade D in ONE other subject at H.K.C.E.E. level.

(c) The six subjects mentioned at (a) above must include Chinese Language and English Language. Applicants should have attained at least Grade E in syllabus B or at least Grade C in Syllabus A in English Language.

4. Applicants who have attained public examination results comparable to those stated at (3) above may also apply.

5. Applicants should note that the minimum requirements for the study of an elective subject is normally Grade E in that subject at H.K.A.L.E.

(excerpted from the College Student Handbook of S.R.B.C.E)

SERIAL NO. _____ Team _____

SIR ROBERT BLACK COLLEGE OF ED.
TEACHING PRACTICE APPRAISAL FORM

(STUDENT'S COPY)

Name: _____

Reg. No.: _____

Per. Tutor: _____

School: _____

Class: _____

Subject: _____

Topic: _____

KEY TO SPECIAL REMARKS:

5=Outstanding
4=Good
3=Satisfactory
2=Borderline
1=Very weak
0=Unacceptable

Lecturer's Signature:

Name:

Date:

APPRAISAL ITEMS	SPECIAL REMARKS
1. **The Teacher:**	
1.1 Appearance/Manner	
1.2 Voice/Speech	
1.3 Alertness	
1.4 Attitude to teaching	
2. **Preparation:**	
2.1 Aims/Objectives	
2.2 Organization/Lesson Plan	
2.3 Content	
2.4 Aids/Resources	
2.5 Provision of Learning Environment	
3. **Performance:**	
3.1 Motivation/set	
3.2 Development/activities	
3.3 Use of bb./aids/resources	
3.4 Verbal Communication	
3.5 Non-verbal Communication	
3.6 Individual Help/Pp. Participation	
3.7 Consolidation/Closure/Follow-up	
3.8 Effectiveness of Pupils' Learning	
4. **Management:**	
4.1 Grouping	
4.2 Class Discipline/Cl. Atmosphere	
4.3 Teacher-pupil Relationship	

Comments

STUDENT'S OWN REFLECTION:

ED 1301

PRIMARY

個人職業探討
教育及職業計劃指南

一. 活動 (ACTIVITIES)

對於你喜愛的活動，請在 [ ] 項以下加 ✓ 號.
對於你不喜愛，不關心及從未參與的活動，請在 [ ] 項以下加 X 號.

A. 技能性的活動 (REALISTIC)

1. 安裝電器 [ ]
2. 修理汽車 [ ]
3. 機械裝置 [ ]
4. 木工製作 [ ]
5. 駕駛貨車 [ ]
6. 使用機械工具 [ ]
7. 外勤修理工作 [ ]
8. 選修工場管理課程 [ ]
9. 選修機械繪圖課程 [ ]
10. 選修木工課程 [ ]
11. 選修自動機械課程 [ ]

Total no. of ✓ ____

B. 考究性的活動 (INVESTIGATIVE)

1. 閱讀科學書籍或雜誌 [ ]
2. 在實驗室工作 [ ]
3. 科學研究 [ ]
4. 製造火箭模型 [ ]
5. 應用化學實驗儀器 [ ]
6. 自修特別科目 [ ]
7. 解答數學難題或棋局 [ ]
8. 選修物理課程 [ ]
9. 選修化學課程 [ ]
10. 選修幾何課程 [ ]
11. 選修生物課程 [ ]

Total no. of ✓ ____

C. 藝術性的活動 (ARTISTIC)

1. 繪畫 [ ]
2. 觀看話劇 [ ]
3. 設計像俱或建築物 [ ]
4. 參加銀樂隊或管弦樂隊 [ ]
5. 彈奏一種樂器 [ ]
6. 參加音樂會 [ ]
7. 閱讀著名小說 [ ]
8. 繪像或攝影 [ ]
9. 閱讀劇本 [ ]
10. 閱讀或寫作詩詞 [ ]
11. 選修藝術科目 [ ]

Total no. of ✓ ____

D. 社交性的活動 (SOCIAL)

1. 與朋友通信 [ ]
2. 參加宗教活動 [ ]
3. 參加社團 [ ]
4. 輔導別人解決個人問題 [ ]
5. 照顧兒童 [ ]
6. 參加派對 [ ]
7. 跳舞 [ ]
8. 閱讀心理學書籍 [ ]
9. 參加會議 [ ]
10. 參與體育活動 [ ]
11. 結交新朋友 [ ]

Total no. of ✓ ____

E. 事業性的活動 (ENTERPRISING)

1. 影響別人 [ ]
2. 售賣物件 [ ]
3. 討論政治 [ ]
4. 自營事業 [ ]
5. 參加會議 [ ]
6. 演說 [ ]
7. 擔任團體之委員 [ ]
8. 監工 [ ]
9. 會見重要人物 [ ]
10. 帶領小組完成目標 [ ]
11. 參與政治性活動 [ ]

Total no. of ✓ ____

F. 規律性的活動 (CONVENTIONAL)

1. 保持室內整潔 [ ]
2. 為自己或為別人打字 [ ]
3. 作簡單簿記 [ ]
4. 操作商業儀器 [ ]
5. 詳盡記錄支出費用 [ ]
6. 選修課程 [ ]
7. 選修商業課程 [ ]
8. 選修簿記課程 [ ]
9. 選修商科數學課程 [ ]
10. 整理檔案 [ ]
11. 寫商業信件 [ ]

Total no. of ✓ ____

二. 才幹 (COMPETENCIES)

對於你能做得好的工作，請在 [___] 項以下加 ✓ 號.
對於你做得不好及從未做過的工作，請在 [___] 項以下加 X 號.

A. 技能性的才幹 (REALISTIC)

1. 我會使用木工工具 [___]
2. 我能使用電壓計 [___]
3. 我能安裝碳化器 [___]
4. 我會使用五金工具如鑽孔機或打磨機 [___]
5. 我能粉飾舊像俬或木器 [___]
6. 我能了解藍圖 [___]
7. 我能修理簡單電器工作 [___]
8. 我能修理像俬 [___]
9. 我能繪製機械圖 [___]
10. 我略懂電視修理 [___]
11. 我能作簡單水喉修理 [___]

Total no. of ✓ ____

B. 考究性的才幹 (INVESTIGATIVE)

1. 我能了解真空管原理 [___]
2. 我可列舉三種含有豐富蛋白質的食物 [___]
3. 我明白何謂放射原素的半衰期 [___]
4. 我能用對數表 [___]
5. 我能用計算尺 [___]
6. 我能用顯微鏡 [___]
7. 我可分辨三組星座 [___]
8. 我能描述白血球的功能 [___]
9. 我能解釋簡單化學方程式 [___]
10. 我明白人造衛星為何不會撞落地球 [___]
11. 我曾參與科學展覽或比賽 [___]

Total no. of ✓ ____

C. 藝術性的才幹 (ARTISTIC)

1. 我能玩一種樂器 [___]
2. 我能參與二部或四部合唱 [___]
3. 我能作個人音樂演出 [___]
4. 我能演戲 [___]
5. 我可領略文學作品 [___]
6. 我懂得跳現代舞/芭蕾舞 [___]
7. 我能作人像素描 [___]
8. 我能繪畫或雕刻 [___]
9. 我懂得陶瓷製作 [___]
10. 我能設計服飾,海報或像俬 [___]
11. 我善於寫作故事或詩詞 [___]

Total no. of ✓ ____

D. 社交性的才幹 (SOCIAL)

1. 我善於向別人解釋事物 [___]
2. 我曾參與慈善籌款運動 [___]
3. 我善於與他人合作做事 [___]
4. 我善於取悅長輩 [___]
5. 我善於款待客人 [___]
6. 我善於教導孩童 [___]
7. 我能計劃宴會中的餘慶活動 [___]
8. 我善於輔助有煩惱的人 [___]
9. 我曾參與義務醫療工作 [___]
10. 我能計劃學校或教會的社會事務 [___]
11. 我善於分析性格 [___]

Total no. of ✓ ____

E. 事業性的才幹 (ENTERPRISING)

1. 我曾被選為學生組織之委員 [___]
2. 我能監督他人工作 [___]
3. 我有過人的精力和熱誠 [___]
4. 我有說服他人的能力 [___]
5. 我是一個傑出的售貨員 [___]
6. 我曾任某團體的發言人 [___]
7. 我曾因工作優異而獲得獎賞 [___]
8. 我曾組織某些團體 [___]
9. 我已開始了自己的經營 [___]
10. 我懂得如何成為一個功的領袖 [___]
11. 我是一個雄辯家 [___]

Total no. of ✓ ____

F. 規律性的才幹 (CONVENTIONAL)

1. 我能每分鐘四十個 [___]
2. 我能可操作複印機或加數機 [___]
3. 我能作速記 [___]
4. 我能處理來往信扎 [___]
5. 我能從事寫字樓工作 [___]
6. 我能使用部記計算機 [___]
7. 我能於短時間內完成許多文件工作 [___]
8. 我能使用計數機 [___]
9. 我能作簡單電腦操作 [___]
10. 我能處理賬項 [___]
11. 我能作準確的開支表 [___]

Total no. of ✓ ____

三、職業 (OCCUPATIONS)

對於引起你興趣或給予你良好印象的職業，請在 [___] 內填上 Y.
對於那些你不喜歡或無興趣的職業，請在 [___] 內填上 N.

飛機工程師 [___]
魚類及野生動物專家 [___]
發電廠操作員 [___]
水管工頭 [___]
煤礦工人 [___]
測量員 [___]
建築督察 [___]
無線電操作員 [___]
油站服務員 [___]
植林專家 [___]
工具設計家 [___]
火車工程師 [___]
瓷器雕刻師 [___]
電器工人 [___]

外地傳教士 [___]
中學教師 [___]
青年犯罪專家 [___]
治療口吃專家 [___]
婚姻顧問 [___]
體育教師 [___]
遊樂場管理員 [___]
臨床心理學家 [___]
社會福利機構主任 [___]
官立學校校長 [___]
個人輔導員 [___]
心理治療工作者 [___]
職業輔導員 [___]

共 < 實際性 > 之 [Y] ____

共 < 社交性 > 之 [Y] ____

氣象學家 [___]
生物學家 [___]
天文學家 [___]
航空設計工程師 [___]
人類學家 [___]
動物學家 [___]
化學家 [___]
獨立研究學家 [___]
科學論文作家 [___]
科學雜誌編輯 [___]
地質學家 [___]
植物學研究員 [___]
物理學家 [___]

投機者 [___]
買賣手 [___]
股票經紀 [___]
廠商代表 [___]
節目監製 [___]
酒店經理 [___]
酒商代表 [___]
酒店工員 [___]
司儀 [___]
外勤推銷員 [___]
實業推銷員 [___]
工業關係顧問 [___]
體育促進員 [___]
政治運動主持人 [___]

共 < 考究性 > 之 [Y] ____

共 < 事業性 > 之 [Y] ____

詩人 [___]
交響樂團指揮 [___]
音樂家 [___]
作曲家 [___]
商業藝術家 [___]
自由作家 [___]
音樂編撰人 [___]
藝術演員 [___]
話劇導演 [___]
唱曲家 [___]
作曲家監督 [___]
舞台劇家 [___]
漫畫家 [___]

會計員 [___]
控制專家 [___]
預算審核員 [___]
部主任 [___]
統計員 [___]
法庭速記員 [___]
銀行務員 [___]
稅務專家 [___]
物品清單主計員 [___]
電腦操作員 [___]
財政分析家 [___]
估價員 [___]
商行出納員 [___]
銀行審查員 [___]

共 < 藝術性 > 之 [Y] ____

共 < 規律性 > 之 [Y] ____

四. 自我估計 (SELF-ESTIMATES)

對於以下的每一項特性，請將自己與年齡相仿的人作一比較，然後對自己作出最正確的估計. 請圈出適當的數字，同時要盡量避免在各項 "才能" 中作同等的選擇.

	機械才能	科學才能	藝術才能	教學才能	推銷才能	文書才能
高	7	7	7	7	7	7
	6	6	6	6	6	6
	5	5	5	5	5	5
中	4	4	4	4	4	4
	3	3	3	3	3	3
低	2	2	2	2	2	2
	1	1	1	1	1	1
	R	I	A	S	E	C

得分最高的英文字母

1. _____
2. _____
3. _____

	手作技巧	數學才能	音樂才能	友善	管理技巧	辦事能力
高	7	7	7	7	7	7
	6	6	6	6	6	6
	5	5	5	5	5	5
中	4	4	4	4	4	4
	3	3	3	3	3	3
低	2	2	2	2	2	2
	1	1	1	1	1	1

得分最高的英文字母

1. _____
2. _____
3. _____

在上列兩圖中之六項特性，每項皆有一英文字母（於兩圖之間）作代表. 請在圖右之三個方格中，依次填上自己得最高估計數字之三項特性的英文字母. 如在同一圖表內你的特性有相同數字時，請對這些項目加以重新估計.

五. 如果你現在可以再選擇職業，你會放棄教師的工作嗎? (會 / 不會)

假如你選擇會，請列出你會考慮之職業:

1. _____
2. _____
3. _____

Name: _____ Reg.: _____

Elective 1: _____ Elective 2: _____

School: _____ Sex: _____

問　卷

以下各題，請根據你實習教學的經驗作答．
請圈出你認為合適的答案．

Reg. no.: 91_____

		十分同意	同意	無意見	不同意	十分不同意
1. 學院的專業課程對我的實習教學有幫助	(1)	1	2	3	4	5
2. 我對自己教授的科目有充分的認識	(2)	1	2	3	4	5
3. 我的課室管理技巧很高	(3)	1	2	3	4	5
4. 在課室內我是個有效律的管理者	(4)	1	2	3	4	5
5. 在實習期間，我能舒暢地擔當教師的角色	(5)	1	2	3	4	5
6. 我的實習教學給予我正面的經驗	(6)	1	2	3	4	5
7 我對自己管理學生的能力有信心	(7)	1	2	3	4	5
8. 我能與學生建立良好的關係	(8)	1	2	3	4	5
9. 我充滿熱誠地教導學生	(9)	1	2	3	4	5
10. 我的教學方式是具有激勵性的	(10)	1	2	3	4	5
11. 我有信心去應付教學上的挑戰	(11)	1	2	3	4	5
12. 我能毫無困難地適應學校的環境	(12)	1	2	3	4	5
13. 我的實習教學是成功的	(13)	1	2	3	4	5
14. 我能準確地評估學生的進度	(14)	1	2	3	4	5
15. 我的實習教學是個成功的經驗	(15)	1	2	3	4	5
16. 我的教學方式能配合我將來的教學	(16)	1	2	3	4	5
17. 我的學生尊敬我及對我的教學能力具有信心	(17)	1	2	3	4	5
18. 我覺得我已做好教學的準備	(18)	1	2	3	4	5
19. 我願受學生尊重多於歡迎	(19)	1	2	3	4	5
20. 我喜歡教學的工作	(20)	1	2	3	4	5
21. 我是個成功及有能力的實習教師	(21)	1	2	3	4	5
22. 我毫不遲疑地和原任教師討論學校的問題	(22)	1	2	3	4	5
23. 我能針對學生的個別需要而加以指導	(23)	1	2	3	4	5
24. 在不同的級別，我都有能力提供多樣的教學活動	(24)	1	2	3	4	5
25. 當學生有學習困難時，我能給予矯正	(25)	1	2	3	4	5
26. 我在教學時是不斷地進行調整去配合學生的需要	(26)	1	2	3	4	5
27. 我有信心能給予學生清晰的指引	(27)	1	2	3	4	5
28. 我所發的問題能協助學生理解學習內容	(28)	1	2	3	4	5
29. 我能在同一教節內，毫無困難地運用兩種以上的教學方法	(29)	1	2	3	4	5
30. 我能在日常教學中激發起學生的學習興趣	(30)	1	2	3	4	5

----- 謝　　謝 -----

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